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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,002	04/25/2001	Keith Leon Clark	L-2188-4	7736

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EXAMINER

NGUYEN, TUYEN T

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 12/18/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/842,002

Applicant(s)

Clark et al.

Examiner

Tuyen T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 30, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-25, 27-33, 35-56, and 58-70 is/are pending in the application.
- 4a) Of the above, claim(s) 22-25, 27, 28, 32, 35, 37, 44, 47, 49-52, 61, 64, is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-31, 33, 36, 38-43, 45, 46, 48, 53-56, 58-60, 62, 63, 66-68, and 70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Claims 22-25, 27-28, 32, 35, 37, 44, 47, 49-52, 61, 64, 65 and 69 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10. [Note, applicant elected figures 6-8 and claim 58 is generic but claims 22-25, 27-28 and 32 are not read on the elected species.]

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 40-43, 46, 48, 53-56, 58-60, 62-63, 66-68 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 40 and 58, applicant should clarify the structure and arrangement of the inner edge, the outer edge and the middle portions.

Regarding claims 46 and 68, applicant should clarify what is intended by “said at least one portions of said corresponding end surfaces being spaced apart at a varying distance to substantially gradually vary the inductance of said choke over a current range.”

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Regarding claim 58, lines 9-10, applicant should clarify the structure of the “converging width” air gap relative to *inner and outer edges of the end surface*.

Regarding claim 59, line 2, does applicant intend the “middle portion” to be the same as the middle portions cited in claim 58?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29-31, 33, 38-43, 46, 48, 53-56, 58-60, 62-63, 67-68 and 70, as best understood in view of the rejection under 112 second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergman [US 1,353,711] in view of Ward [US 5,194,817].

Bergman discloses an electric welding apparatus comprising:

- a core structure [26, 27] including two center pole pieces [24, 25] defining an air gap [see figures 4-6] therebetween, wherein the two pole pieces having end surfaces, wherein each of the pole pieces having two outer edges spaced from one another; and
- a winding [21].

Bergman discloses the instant claimed invention except for the specific structure of the pole piece/air gap.

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Ward discloses a choke structure [figure 3] comprising:

- a core structure [22] including two pole pieces [22a, 22b] defining an air gap therebetween, wherein each of the pole pieces having two outer edges and a middle portion position therebetween; and
- a winding [24].

wherein at least one of the middle portions being *substantially* V-shaped.

wherein the air gap having a width therebetween the middle portions and the end surfaces of the two pole pieces that is greater than a width between at least of the two outer edges of the pole pieces.

wherein the air gap having a shape that is *substantially symmetrical*.

wherein the middle portions having *substantially* non-perpendicular oriented surfaces.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to use the pole pieces/air gap design of Ward in Bergman for the purpose of controlling the inductance of the device.

The specific size of the core structure would have been an obvious design consideration based on the intended application use.

The specific shape of the air gap would have been an obvious design consideration based on the desired inductance applications.

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6. Claims 36, 45 and 66, as best understood in view of the rejection under 112 second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergman in view of Ward as applied to claims 29, 40 and 58 above, and further in view of Saitoh et al. [US 5,204,653].

Bergman in view of Ward discloses the instant claimed invention except for the air gap at least partially filled with a low permeability material.

Saitoh et al. discloses an electromagnetic induction device including a core structure [50] having two pole pieces [51] and an air gap formed therebetween, wherein a low permeability material filled the gap.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to fill the air gap of Bergman's device, as modified, as suggested by Saitoh et al., for the purpose of controlling the magnetic field.

Response to Arguments

7. Applicant's arguments with respect to claims 29-31, 33, 37-43, 46, 48, 53-56, 58-60, 62-63, 66-68 and 70 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tuyen T. Nguyen whose telephone number is (703) 308-0821.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Elvin Enad, can be reached at (703) 308-7619. The fax number for this Group is (703)872-9318 before the final office action, if the response is after final office action the fax number is (703)872-9319.

Any inquiry of a general nature or relating to status of this application of proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

TTN *TTN*

December 16, 2002

Tracy T. Nguyen